

FlowSwitch FS 600

Continuous flow monitoring for bulk materials in small pipelines



Application

The FlowSwitch FS 600 is monitoring the mass flow of solids within small pipelines.

It is a robust electrostatic flow indicator and works well with all kinds of pneumatic conveying and freefall systems. It can detect conveying or feeding problems with powders, dust, pellets and granules. This helps to prevent plant failure due to clogging, material loss, idle or other issues.

Scope of use

Animal feed industry	Pharmaceuticals
Building materials	Pigment production
Production of ceramics	Power plants
Chemical industry	Rubber goods
Detergent industry	Recycling
Food industry	Synthetic materials
Glass production	Textiles
Metal production	etc.

HUMY 300/3000
Continuous inline moisture measurement

MF 3000
Microwave mass flow measurement

FS 510
Microwave material flow monitoring

FS 600
Electrostatic material flow monitoring

FS 700/710/750
Triboelectric dust monitoring

LC 510
Microwave barrier and limit level monitoring

Main Benefits

- Reliable and contact-free electrostatic measurement principle
- Integral measurement
- Adjustable sensitivity, damping and switching point
- Simple and quick installation into existing pipelines – often without cutting or welding
- Multiple versions for ANSI / DIN flanges for pipe diameters from 10-100 mm available
- No moving parts, limited wear and maintenance
- Robust design out of stainless steel
- Best ATEX protection (optional zone 20 or 2)

Function

The measurement of the FS 600 is based on the electrostatic or extended triboelectric principle. Particles permanently collide with each other and are charged in a natural way. If these electrically charged particles are flying next to the sensor of the FS 600 or touch it, the particles are detected via a charge transfer. Resting particles, such as deposits etc., do not affect the measurement.

The ring sensor measures integrally and without contact over almost the entire pipe cross-section. If the FS 600 is equipped with a relay, a switching operation is triggered at a certain flow rate, e.g. an alarm signal is raised. Alternatively, the sensor can be ordered with an analog output (4-20 mA) for trend analysis.

The FS 600 has a compact design, it is only 20 to 30 mm wide, and is prepared for installation between DIN or ANSI flanges. The sensor can usually be installed without cutting and welding the pipe. Multiple versions for pipe diameters from 10 to 100 mm are available.

The robust design and construction of the FS 600 ensures a long service life. All essential elements are made of stainless steel, the electronics are well protected and the pipeline can be pressurized up to 40 bar.

Technical Data

Housing material	Stainless steel (1.4305)
Material process coupling	Stainless steel (1.4571)
Ambient temperature	-20°C to +70°C
Process temperature	-20°C to +90°C
Process pressure	Max. 40 bar
Protection class	IP67
Ex protection / ATEX	Optional zone 20 or zone 2
Power supply	17 – 31 VDC
Current consumption	60 – 90 mA
Output	Relay, transistor or analog (4-20 mA)
Switching voltage	Max. 48 V AC/DC, 1 A (Relay vers.)
Adjustable parameter	Sensitivity, damping, switching point

